Ordering number: EN 851G
查询2SA1177供应商

SANYO

No.851G

2SA1177

PNP Epitaxial Planar Silicon Transistor

HF Amp Applications

Use

. Ideally suited for use in FM RF amplifiers, mixers, oscillators, converters, IF amplifiers.

Features

. High f_T (230MHz typ.) and small c_{re}(1.1pF typ.).
. Small NF (2.5dB typ.).

Absolute Maximum Ratings at T_a=25°C

			unit
Collector to Base Voltage	V_{CBO}	-30	V
Collector to Emitter Voltage	V_{CEO}	-20	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-30	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_j	125	°C
Storage Temperature	T_{stg}	-55 to +125	°C

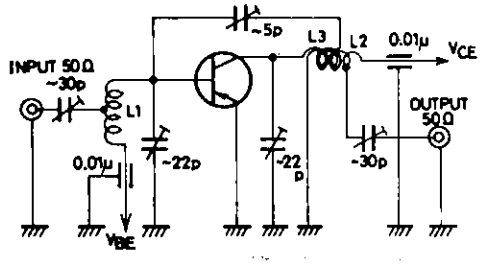
Electrical Characteristics at T_a=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=-10V,I_E=0			-0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=-4V,I_C=0			-0.1	μA
DC Current Gain	h_{FE}	V_{CE}=-6V,I_C=-1mA	60*		320*	
Gain-Bandwidth Product	f_T	V_{CE}=-6V,I_C=-1mA	150	230		MHz
Feedback Capacitance	c_{re}	V_{CB}=-6V,f=1MHz		1.1	1.7	pF
B to C Time Constant	r_{bb},c_c	V_{CB}=-6V,I_C=-1mA,f=31.9MHz		11	20	ps
Noise Figure	NF	V_{CE}=-6V,I_C=-1mA,f=100MHz		2.5		dB
Power Gain	PG	V_{CE}=-6V,I_C=-1mA,f=100MHz		22		dB

* 2SA1177 is classified as follows according to h_{FE} at 1mA.

60 D 120	100 E 200	160 F 320

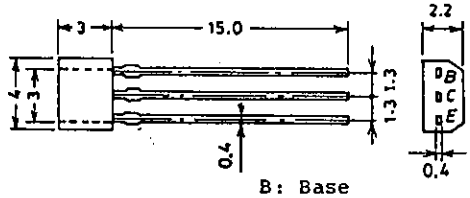
NF, PG Test Circuit



Unit(Capacitance:F)

L_1 : 1mmø plated wire 10mmø 5T, tapped at 2T from V_{BE} side.
L_2 : 1mmø plated wire 10mmø 7T, tapped at 1T from V_{CE} side.
L_3 : 1mmø enameled wire 10mmø 3T.

Package Dimensions 2033
(unit: mm)



B: Base
C: Collector
E: Emitter

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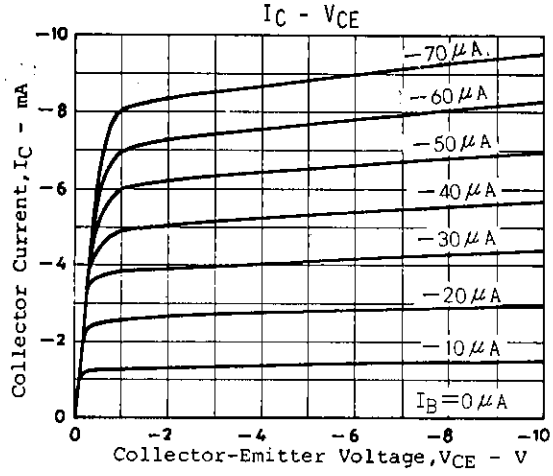
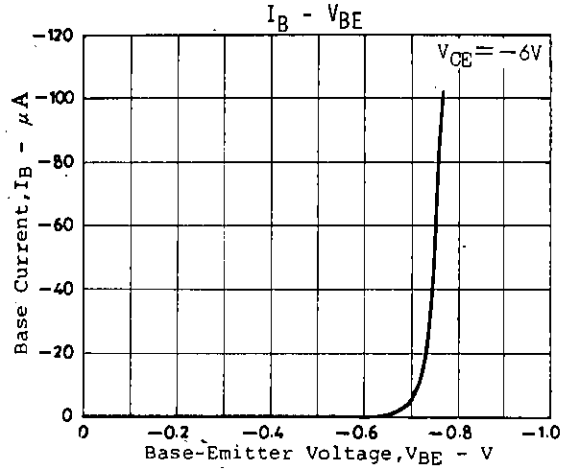
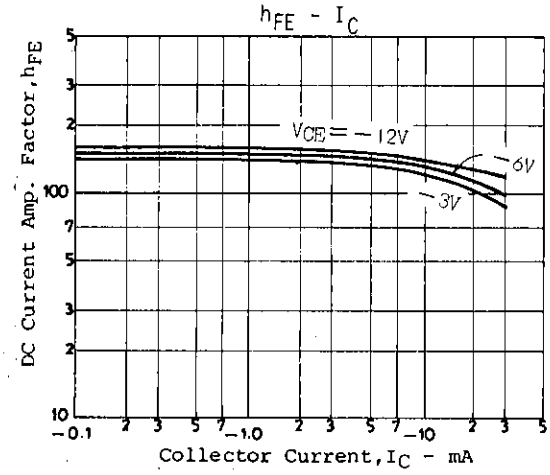
I_C - V_{CE}



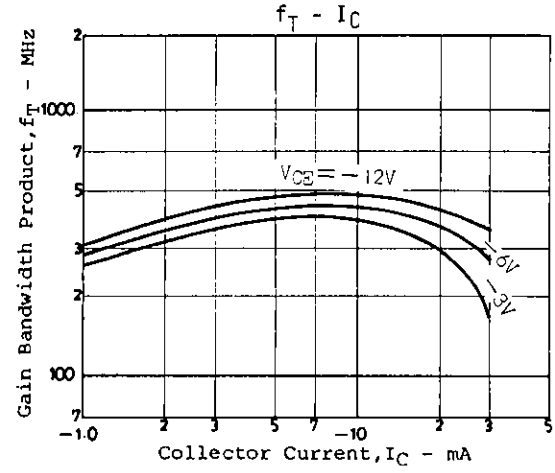
I_B - V_{BE}



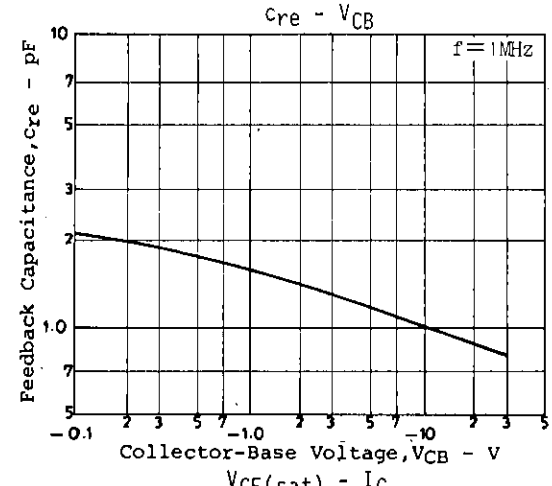
h_{FE} - I_C



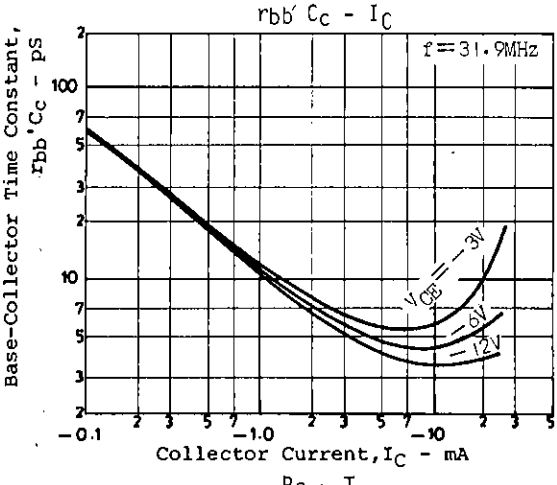
f_T - I_C



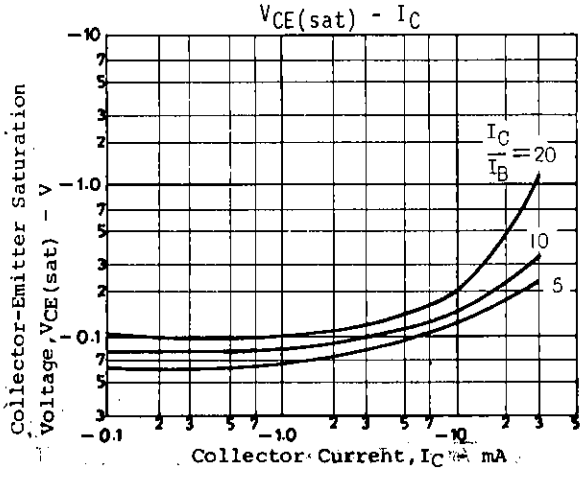
C_{re} - V_{CB}



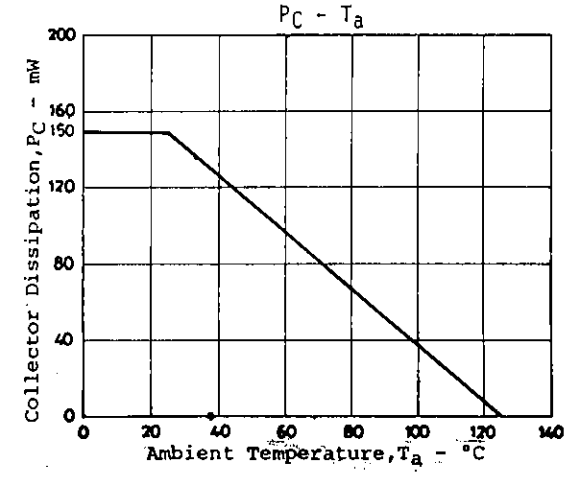
$r_{bb'}C_c$ - I_C

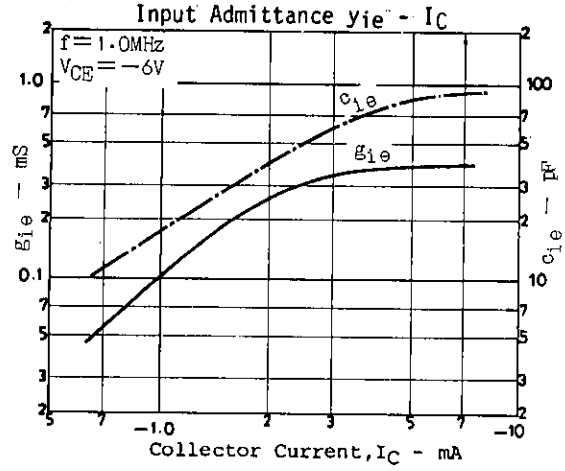


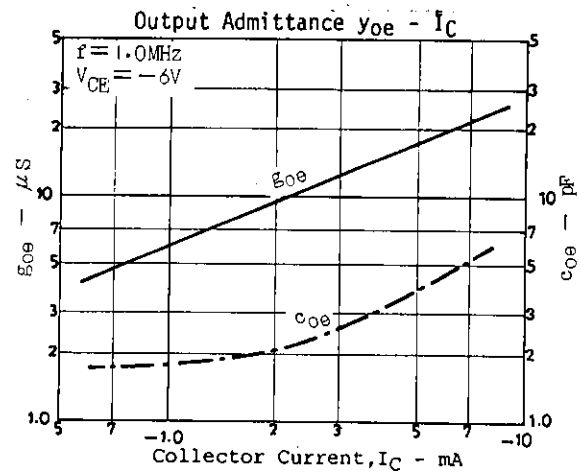
$V_{CE(sat)}$ - I_C

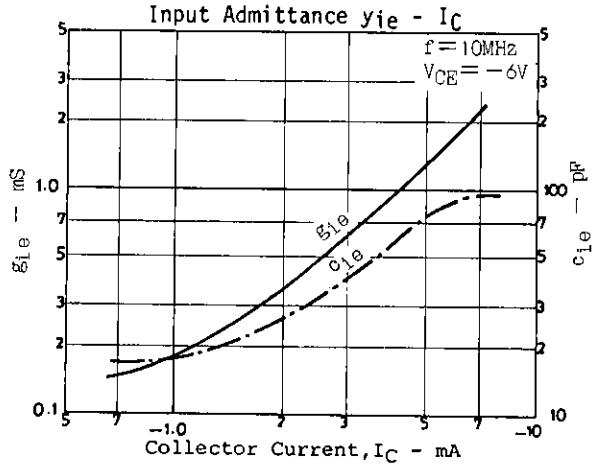


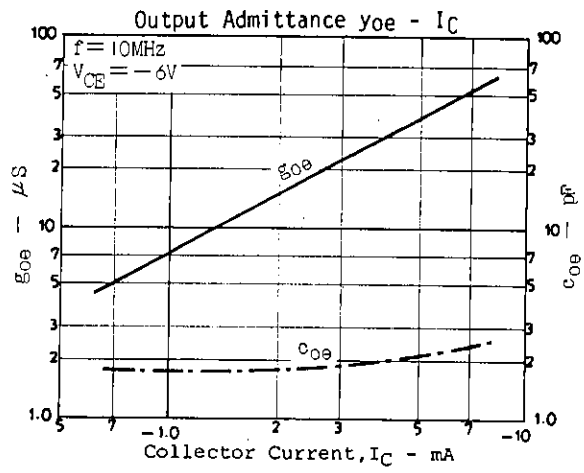
P_C - T_a

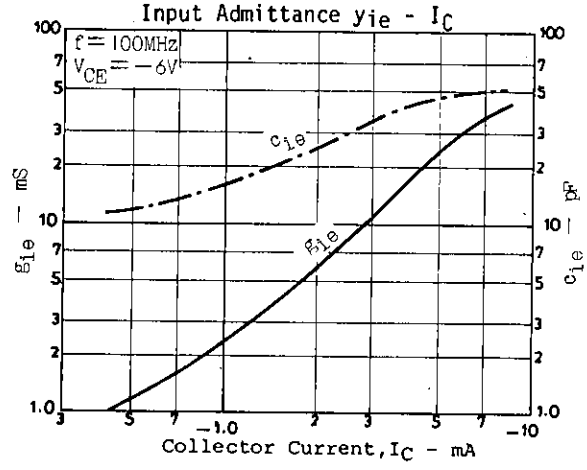


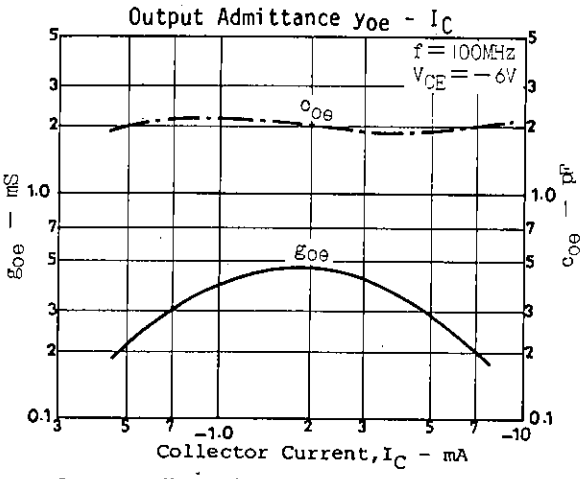

Input Admittance y_{ie} - I_C
f = 1.0MHz
V_{CE} = −6V
c_{ie}
g_{ie}
g_{ie} - mS
c_{ie} - pF
Collector Current, I_C - mA

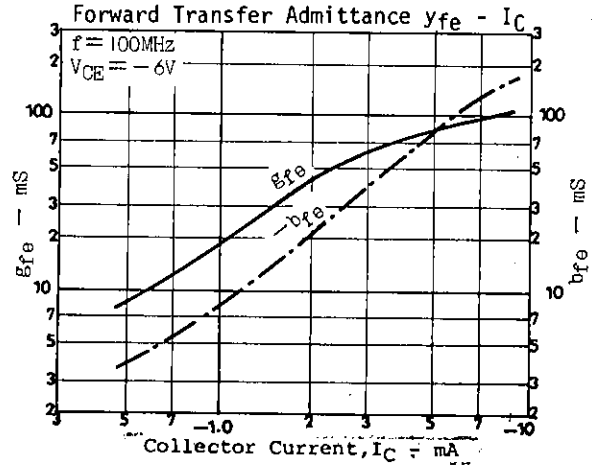

Output Admittance y_{oe} - I_C
f = 1.0MHz
V_{CE} = −6V
g_{oe}
c_{oe}
g_{oe} - μS
c_{oe} - pF
Collector Current, I_C - mA

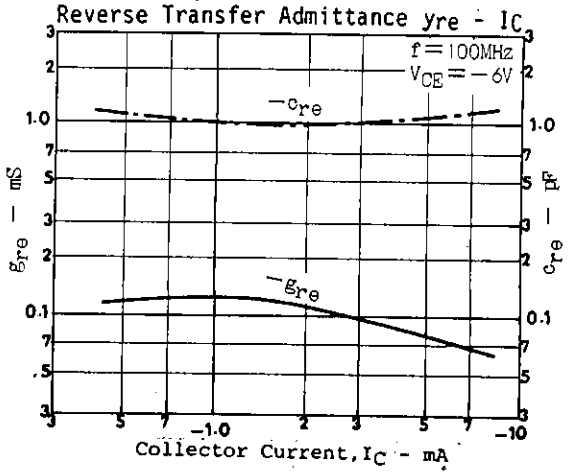

Input Admittance y_{ie} - I_C
f = 10MHz
V_{CE} = −6V
g_{ie}
c_{ie}
g_{ie} - mS
c_{ie} - pF
Collector Current, I_C - mA

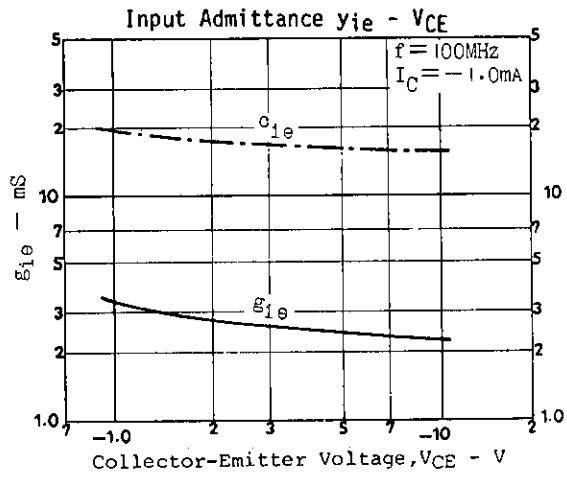

Output Admittance y_{oe} - I_C
f = 10MHz
V_{CE} = −6V
g_{oe}
c_{oe}
g_{oe} - μS
c_{oe} - pF
Collector Current, I_C - mA

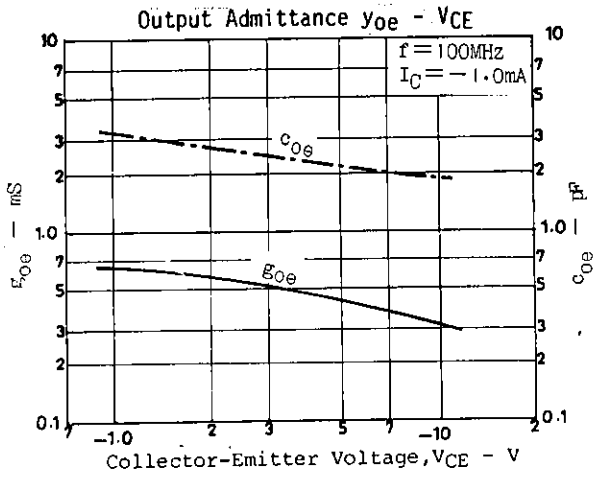

Input Admittance y_{ie} - I_C
f = 100MHz
V_{CE} = −6V
c_{ie}
g_{ie}
g_{ie} - mS
c_{ie} - pF
Collector Current, I_C - mA

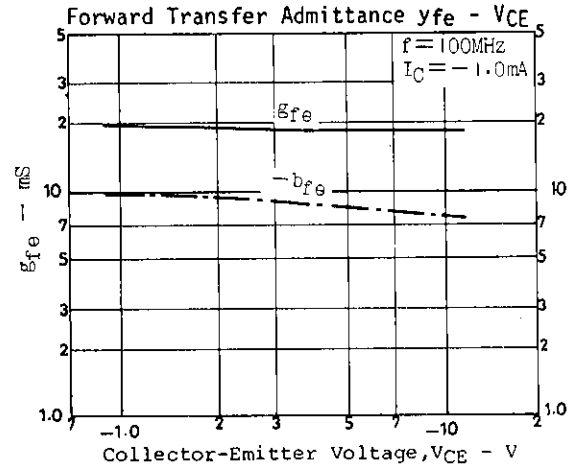

Output Admittance y_{oe} - I_C
f = 100MHz
V_{CE} = −6V
c_{oe}
g_{oe}
g_{oe} - mS
c_{oe} - pF
Collector Current, I_C - mA

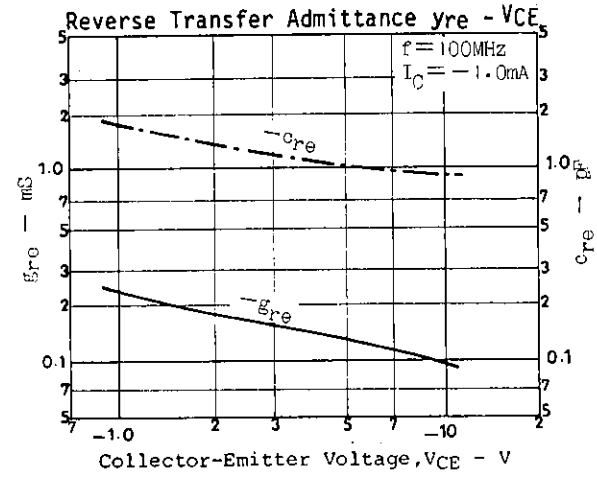

Forward Transfer Admittance y_{fe} - I_C
f = 100MHz
V_{CE} = −6V
g_{fe}
$-b_{fe}$
g_{fe} - mS
b_{fe} - mS
Collector Current, I_C - mA

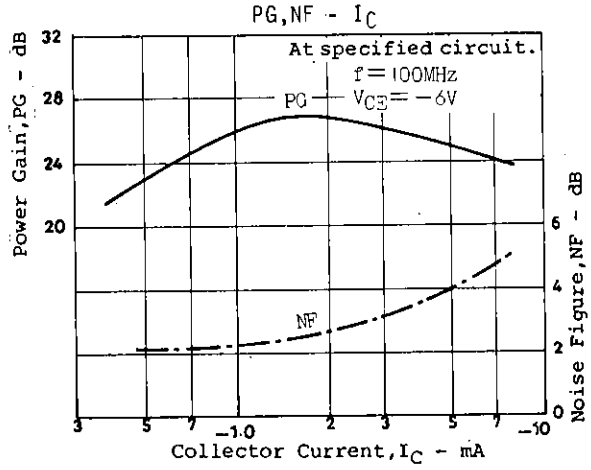

Reverse Transfer Admittance y_{re} - I_C
f = 100MHz
V_{CE} = −6V
$-c_{re}$
$-g_{re}$
g_{re} - mS
c_{re} - pF
Collector Current, I_C - mA











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